E911 Discussion with FCC

Wireless E911 Location Accuracy Requirements NPRM
E911 Requirements for IP-Enabled Service Providers NOI
Next Generation 911 NOI

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E911 Reqs for IP Enabled Service Providers

The FCC should not require providers of portable Interconnected VoIP Service to automatically provide Location Information to PSAPs

- There are currently no feasible solutions that allow a provider of portable VoIP service to determine the location of a caller absent the user affirmatively providing their location (address)
- The services included in the definition of Interconnected VoIP service include a myriad of portable devices that preclude any single standard or solution for determining location

If the FCC extends E911 requirements to VoIP Services not presently covered by the rules

- The rules should apply only to those services where customers have an expectation of emergency calling capability
- This should include any residential VoIP services that provide outbound calling capability

Could GPS be added to U-Verse Home Gateway

- The U-Verse VoIP service is not a portable voice service
- PSAPs already receive MSAG Validated addresses from U-Verse Subscribers

Next Generation 911 – Non-Voice/Multimedia Communication

Discussion with Public Safety/disability community have centered on providing an interim text-to-911 solution before full implementation of NG-911

- Requirements are not well understood
- Focus has been on SMS-to-911
  - Text delivery should be separated from underlying network delivery
- SMS is a best efforts message delivery network not well suited to emergency communications
- AT&T working on ATIS Incubator Project to look at interim solutions for non-voice/multimedia communications

Do you have any data on reliability of SMS for mobile to fixed location?

- Over-all completion rate for SMS delivery is over 99%
- Delivery rates to fixed locations are slightly lower
- Although reliability for SMS does not account for latency
- Latency for advertising campaigns is not as important as it is for '911' communication
- Greater than 90% of messages are delivered within 9 seconds, but almost 4% take over 110 second for delivery
- Successful communication with the PSAP would involve more than a single message exchange (multiple messages with different latencies, out of order delivery, and no guarantee of success would be extremely problematic)

Next Generation 911 – Standards

AT&T has been very active in the development of the NG-911 Standards

- Participated in the development of the NENA I3 Specification
- Specific requirements not well understood
- Working on 3GPP standards for Non-Voice Communications for Emergency Services/ Multimedia Emergency Services to address limitations for IMS Based Networks

AT&T highlighted the concern for fraud in the discussion of Location Delivery (using protocols such as HELD)

- In general our comments were targeted at providing access to emergency services through Instant Messaging, email, and other social networking (e.g. – Facebook)
- Need to understand liability and business relationships for providing LIS and LoST Services

AT&T suggests that the Commission should ensure full liability protection for carriers for deployment of NG-911.

- We believe carriers need additional liability protection in the NG-911 environment, especially as it relates to interim solutions which may be pre-cursors to full solutions

Wireless Location Accuracy

AT&T E911 Deployment trends consistent with NENA estimates
- Deployments for E911 Phase II > 98%
- Deployments for E911 Phase I > 99%

AT&T provides location estimates using both network and handset based technology
- Primary network technology – UTDOA (accounts for ~60% locates)
- Primary handset technology – AGPS (accounts for ~40% locates)

AT&T Network Capability
- Network is required to provide assistance data for handsets to generate location estimates (handsets can not provide location independently)
- All 3G Alcatel-Lucent MSCs have been upgraded to support AGPS
- Currently upgrading 3G Ericsson MSCs to support AGPS (completion planned for August 2011)

Handset capability
- As of early 2009, all 3G handsets being sold were AGPS capable
- First introduction in many 3G handsets started in 2007

Wireless Location Accuracy (continued)

If a call is placed from an AGPS capable handset and the network has been upgraded to support AGPS, then GPS coordinates are delivered to the PSAP (assuming AGPS locate was successful)

If a call is placed from a non-GPS capable handset, then the network would locate the handset using UTDOA (assuming UTDOA locate was successful)

If the primary technology for E911 fails then the location is determined using a fallback technology

- CGI + Timing Advance is used as a fallback for UTDOA
- Round Trip Timing (RTT) is used as a fallback for AGPS

Location information is provided to the PSAP in a very high percentage of cases, but may not be delivered if

- The MSC, SMLC, or GMLC is not provisioned for E911 Phase II
- The MSC, SMLC, or GMLC has erroneous cell site information (incorrect lat/long)
- If an outage occurs in the connectivity (links) to the PSAP
- If a software problem prevents location from being determined

AT&T has audit programs in place to validate data in the MSCs, SMLCs, and GMLCs

The connectivity to the PSAP is alarmed and monitored 24x7

AT&T has a test program in place to validate updated handset and network equipment and software